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# **WATER SUPPLY OUTLOOK FOR MONTANA**



**U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE**

Collaborating with

**MONTANA AGRICULTURAL EXPERIMENT STATION**

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF  
**MAR. 1, 1977**

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.  
ORC-254-10*

### PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

### PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# ***WATER SUPPLY OUTLOOK FOR MONTANA***

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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# WARNING

**You may have less Irrigation water this year than ever before.**

SNOW COURSE MEASUREMENTS MADE ON MARCH 1, 1977 CONTINUE TO INDICATE THAT MANY AREAS WILL HAVE SEVERE TO CRITICAL WATER SHORTAGES. STUDY THE ATTACHED WATER SUPPLY FORECAST CAREFULLY FOR STREAM FLOW AND/OR RESERVOIR STORAGE FIGURES THAT CONCERN YOUR AREA. KEEP IN TOUCH WITH YOUR IRRIGATION DISTRICT OR OTHER OFFICIALS FOR ESTIMATES OF THE SUPPLY AVAILABLE FOR YOU. YOU MAY FIND YOU'LL NEED TO CHANGE CROPS, PLANTED ACREAGE, TIMING OF WATER APPLICATION OR EFFICIENCY OF YOUR WATER DISTRIBUTION SYSTEM. THESE ARE SOME OF THE EARLY DECISIONS AND PLANS YOU MAY HAVE TO MAKE:

1. Change to crops which require less water.
2. Reduce the crop acreage. Naturally, this will affect the fertilizer you order and the amount of seed you buy. Be sure unplanted land has cover crops to prevent wind erosion.
3. Check out your irrigation systems carefully. Make certain that ditches have no water-wasting weeds or debris to slow delivery; that sprinkler heads don't have leaks, pipes have tight connections and pumps work properly. If new parts or equipment are needed, purchase them soon.
4. Plant only the best land - it makes most efficient use of water. If your soil has been mapped, local Soil Conservation Service personnel can guide you. If not mapped, they can still give you general information.
5. Maintain close contact with the Soil Conservation Service or your local Conservation District for the latest water supply forecasts, and for soil information. SCS has just published water conservation TIPS pamphlets for irrigators, farmers and ranchers. Get copies.
6. Maintain close contact with the Agricultural Stabilization and Conservation Service county office. Funds for cost sharing on special water stretching practices may be made available because of the drought situation. ASCS also administers the Federal Disaster Assistance program.
7. Do the same with your closest Farmers Home Administration office. Special loans may become available.
8. Do the same with the local Cooperative Extension Service office for current information on crops, feed supply and marketing.

SCS, ASCS AND FMHA ARE LISTED IN THE PHONE BOOK UNDER "U.S. GOVERNMENT, AGRICULTURE, DEPARTMENT OF." THE EXTENSION SERVICE IS USUALLY LISTED WITH LOCAL COUNTY OFFICES.



MONTANA WATER SUPPLY OUTLOOK  
March 1

\* \* \* \* \*

\* Water supply conditions have deteriorated the past month even with the storm activity near the first of March. Snowfall on the mountain watersheds was very light until the last few days in February and the first few days of March. Some mountainous areas received one to four feet of new snow during this storm period.

\* Small mountain ranges in central Montana and the north end of the Bighorn Mountains continue to receive good precipitation.

\* Areas west and north of the Kootenai River and areas along the continental divide east of Lemhi Pass into Yellowstone National Park, near Butte and north of Marias Pass to the Canadian border have less than 30 percent of average snowpack. Headwater areas of the Gallatin, Smith, Belt, Judith, Musselshell and Shields Rivers have 50 to 70 percent average snow storage. Snow water content in the Crazy and Castle Mountains is 70 to 90 percent average.

\* The water equivalent at about 75 percent of the snow courses in Montana is minimum of record.

\* Most streams are forecast to have spring and summer runoff that is second to fourth lowest of record. Mid and late season irrigation supplies are expected to be short.

\* \* \* \* \*

COLUMBIA RIVER DRAINAGE

Snow - The mountain snowpack continues well below average. Most snow courses have the lowest water content of record. Storms around the first of March added moisture to the snowpack but increases were much less than the deficit caused by low snowfall in February.

Mountains north and west of the Kootenai River and along the continental divide have less than 30 percent of normal water content in the snow.

The Swan River area has snowpack a little more than one-half of average. All other areas range from 30 to 50 percent snow water storage.

Streamflow - Most streams are forecast to have runoff that is third or fourth lowest of record. The Kootenai River is expected to have runoff similar to 1973 and a little above the low years of 1941 and 1944.

The Upper Clark Fork runoff should be comparable to 1940 and a little more than 1941, 1944 and 1973. The forecasted flow in the Bitterroot River near Darby is lower than any flow measured since records started in 1973.

The snow melt period is expected to be short this season. Streamflow will drop to base flow levels earlier than usual this summer and summer flows will be less than normal.

Irrigation water supplies will be very short through July and August on streams not having stored water.

#### MISSOURI RIVER DRAINAGE

Snow - With the exception of the Bearpaw, Highwood, Snowy, Castle and Crazy Mountains, the water content of the snowpack is well below average. Portions of the Gallatin, Belt, Smith, Judith and Musselshell Rivers have snow that is 50 to 70 percent average. Most areas have only 30 to 50 percent of the normal amount of water stored in the headwater snowpack. Extremely low snow cover, less than 30 percent average, encompasses the headwaters of the Marias, St. Marys, Beaverhead Rivers, and portions of the Big Hole, Madison, and Boulder Rivers.

Most snow courses west of the Missouri River and the Gallatin-Madison divide have the lowest water content of record.

Streamflow - Most streams are forecast to have runoff near the previous recorded lows. In the Missouri River headwaters, streamflow is forecast to be like the years of 1961 and 1973. The Big Hole River and



Gallatin River at Logan, and Missouri River are predicted to have runoff less than or near previously recorded lows.

Streams having headwaters along the continental divide north of Helena, are forecast to have the second or third lowest of record above the years of 1941 and 1944 and similar to 1973. Streams originating in the small mountain ranges of central Montana will have runoff well above the low levels of other areas.

Irrigation water supplies from streams in the Missouri River headwaters and streams originating on the continental divide will be much lower than usual in July and August. Some shortages may even occur in late June. Most reservoirs are expected to fill and this stored water will help provide late season supplies were it is available.

#### YELLOWSTONE RIVER DRAINAGE

Snow - The poorest snow conditions are above Yellowstone Lake where water contents of the snow is less than 30 percent of average. The snow in the remaining portion of Yellowstone and Clarks Fork Rivers in Wyoming is 30 to 40 percent average. Snowpack in the Montana mountain ranges is generally 50 to 60 percent average, except for 80 to 90 percent snow cover in the Crazy Mountains and average or above snow in the northern part of the Bighorn mountains. Many snow courses in and near Yellowstone National Park have the lowest water content of record.

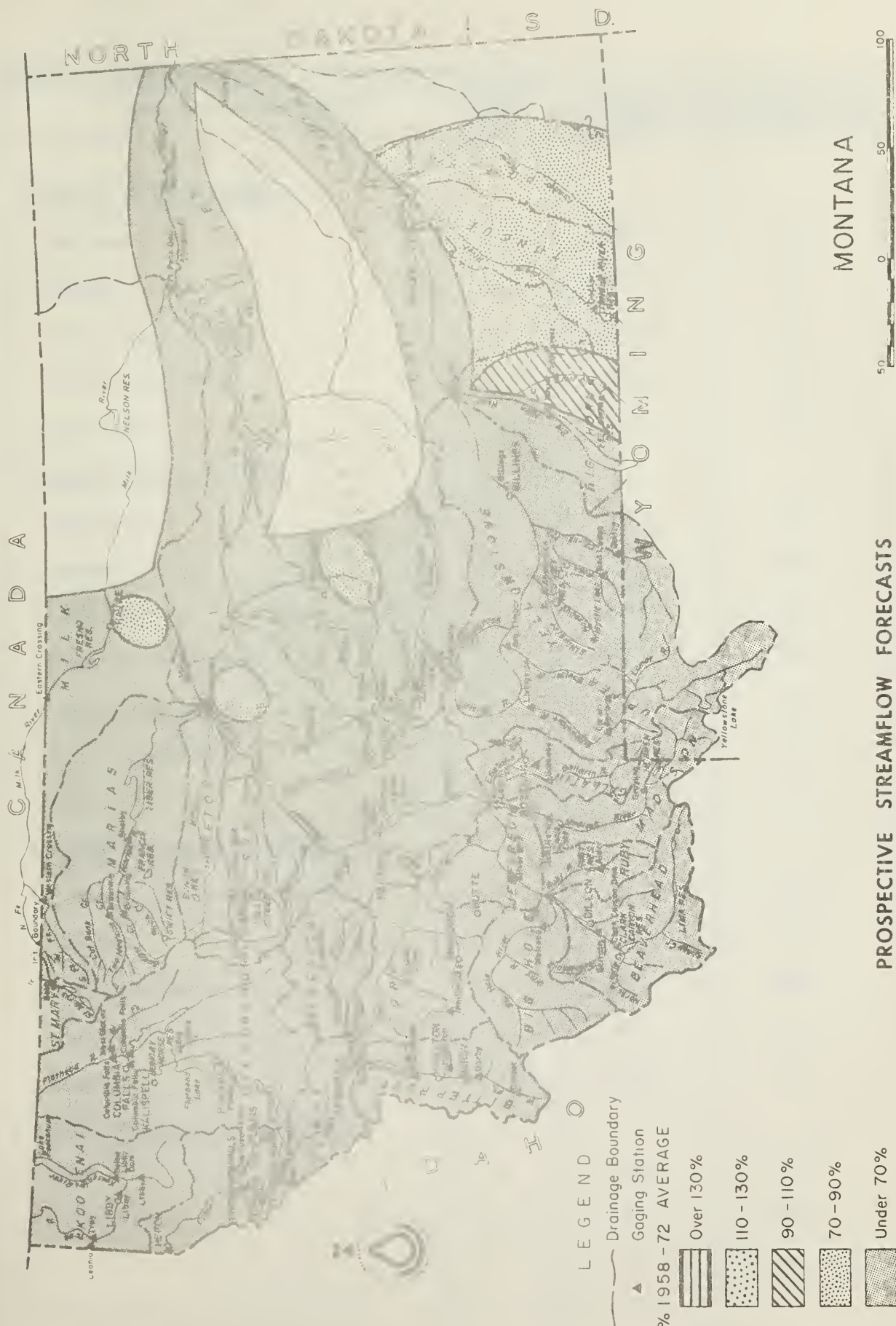
Streamflow - Most streams are forecast to have the lowest or near the lowest April-through-September runoff of record. Many streamflow stations have over 40 years of records. Runoff this season is expected to be similar to most recent dry years of 1960, 1961 and 1966.

Exceptions are the Little Big Horn River where near average runoff is

forecast and Tongue and Power Rivers where streamflow is expected to be 10 to 15 percent below average.

Irrigation water supplies in smaller streams above Billings will be in short supply starting in late June. Where available, stored irrigation water will help ease the low supply.

The main Yellowstone should have enough water to supply irrigation needs, but it may be necessary to raise diversion dams for water to flow in the ditches and lower pumps to the water level.



PROSPECTIVE STREAMFLOW FORECASTS  
AS OF  
March 1, 1977

MONTANA





**SUMMARY of SNOW MEASUREMENTS** (COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF:	
		Last Year	Average
<u>COLUMBIA RIVER DRAINAGE</u>			
Kootenai	40	36	37
Flathead	21	46	43
Upper Clark Fork	34	33	40
Lower Clark Fork	11	32	34
Bitterroot	6	31	40
<u>MISSOURI RIVER DRAINAGE</u>			
Jefferson	46	28	33
Madison	24	30	36
Gallatin	18	46	52
Missouri Main Stem	12	47	52
Judith-Musselshell	11	78	78
Marias-Teton-Sun	12	38	40
Milk	3	75	57
<u>YELLOWSTONE RIVER DRAINAGE</u>			
Yellowstone (above Bighorn)	29	45	54
Bighorn	29	55	60
Little Bighorn	7	105	107
Tongue	9	90	92
Powder	5	66	75
<u>SASKATCHEWAN RIVER DRAINAGE</u>			
Bow	4	54	52
St. Mary's	2	27	25



C A N A D A

NORTH

DAKOTA

S. D.

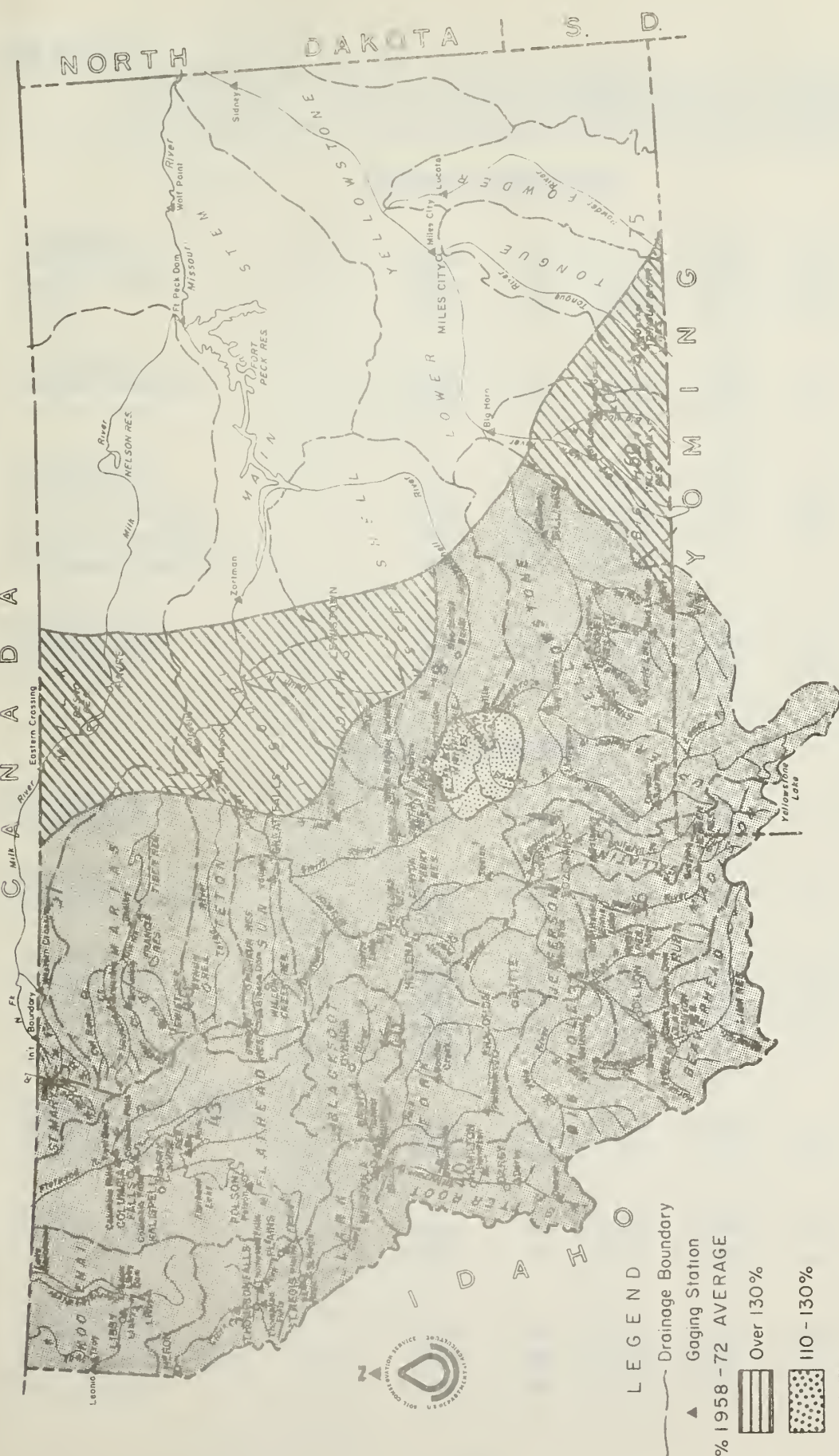
Y O M I N G

MONTANA



MOUNTAIN SNOW WATER EQUIVALENT

AS OF  
March 1, 1977



LEGEND

— Drainage Boundary

▲ Gaging Station

% 1958 - 72 AVERAGE

Over 130%

110 - 130%

90 - 110%

70 - 90%

Under 70%





# SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †

## COLUMBIA RIVER BASIN

### Kootenai

Baree Trail	3800	48	7.5	2-28	4.7	-	6.3
Murphy Lake R. S.	3000	48	22.6	3-3	19.4	19.3	20.1
Raven	3050	48	23.0	3-1	14.0	16.7	18.5

### Flathead

Desert Mountain	5600	54	8.4	2-25	5.3	8.7	7.3
Marias Pass	5250	54	6.5	2-20	4.2	6.2	5.4

### Clark Fork

Black Pine	7100	48	10.0	2-28	6.5	8.2	7.5
Lubrecht Forest	4100	48	26.8	3-1	14.0	23.6	16.4
Seeley Lake R. S.	4030	48	11.9	3-1	4.8	11.4	8.4
Skalkaho Summit	7260	48	10.8			10.4	9.7

### Bitterroot

Gibbons Pass	7100	48	7.1	2-23	2.9	5.9	4.9
Lolo Pass	5250	48	10.6	2-25	7.4	7.1	6.0

## MISSOURI RIVER BASIN

### Beaverhead

Lakeview	6700	48	15.3	2-28	8.1	10.8	9.8
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### Madison

West Yellowstone	6700	48	6.5	3-1	1.3	1.8	2.4
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### Gallatin

Bridger Bowl	7250	48	17.0	2-23	15.6	16.0	16.0
College Site No. 2	4860	48	17.7	2-25	8.6	16.8	14.2
Lick Creek	6860	48	18.8	2-25	12.3	14.2	15.7
Twenty-One Mile	7150	48	10.0	3-1	2.2	3.2	4.2

### Missouri Main Stem

Kings Hill	7420	48	11.8	2-23	4.4	7.6	6.9
Stemple Pass	6350	48	5.9	3-1	3.6	5.3	4.1

### Milk

Beaver Creek	3950	48	20.9	2-26	9.3	8.6	9.8
Rocky Boy	4700	36	10.1	2-26	7.0	7.5	7.1

### Yellowstone

Battle Ridge	6020	48	17.6	2-23	9.6	12.8	13.4
Northeast Entrance	7350	48	9.4	3-2	4.3	4.9	5.8
PMC Dryland	3700	48	20.7	2-28	5.8	7.1	6.9





# RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average

## COLUMBIA RIVER BASIN

Kootenai	Koocanusa	5,694.0	2,770.0	1,716.0	--
Flathead	Hungry Horse	3,428.0	2,326.0	2,570.0	2,329.0
	Flathead Lake	1,791.0	703.8	925.5	1,009.0
	Camas (4)	45.2	15.6	18.1	24.5
	Mission Valley (8)	100.3	46.7	57.1	34.9
Clark Fork	Georgetown Lake	31.0	28.1	27.8	25.4
	Lower Willow Creek	4.9	2.6	3.2	1.2
	Nevada Creek	12.6	5.5	--	5.6
	Noxon Rapids	334.6	290.0	261.8	300.6
Bitterroot	Como	34.9		24.5	13.7
	Painted Rocks	31.7	4.5	30.3	21.3

## MISSOURI RIVER BASIN

Beaverhead	Clark Canyon	257.2	162.3	150.4	141.4
	Lima	84.0	--	46.9	31.9
Ruby	Ruby	38.8	25.0	--	27.4
Madison	Hebgen Lake	337.5	232.7	288.3	202.6
	Ennis Lake	41.0	33.0	35.4	37.6
Gallatin	Middle Creek	8.0	3.6	3.9	3.6
Missouri	Canyon Ferry	2,043.0	1,727.0	1,693.0	1,608.0
	Hauser & Helena	61.9	61.3	62.5	57.4
	Lake Helena	10.4	10.2	10.7	9.0
	Holter Lake	81.9	79.5	79.0	51.2
	Smith River	10.6	10.5	9.6	6.3
	Bair	7.0	4.4	--	4.7
	Martinsdale	23.1	15.4	--	7.5
	Deadman's Basin	72.2	--	53.8	46.6
	Fort Peck Lake	18,910.0	15,940.0	17,340.0	13,110.0
Sun	Gibson	99.0	69.9	69.4	42.2
	Willow Creek	32.2	27.2	28.1	19.5
	Pishkun	32.0	16.4	17.6	17.4
Marias	Lower Two Medicine	11.9	--	--	--
	Four Horns	19.2	--	--	--
	Swift	30.0	19.3	17.7	17.9
	Lake Frances	111.9	78.2	94.0	78.3
	Tiber	1,347.0	495.0	570.8	576.8
Milk	Beaver Creek	3.5	2.1	1.3	--
	Fresno	127.2	67.7	117.3	56.8
	Nelson	66.8	45.6	49.8	41.2
	Lake Sherburne	66.2	16.2	33.1	21.9
Yellowstone	Mystic Lake	21.0	1.8	3.5	7.9
	Tongue River	68.0		37.6	32.6
	Cooney	27.4	14.6	12.0	14.7
Bighorn	Bighorn Lake	1,356.0	870.0	835.9	800.8



# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	PERIOD	Last Year Average

## COLUMBIA RIVER BASIN

KOOTENAI RIVER					
Libby (near) (2)	4,100	55	Apr-Sept	8,012	7,456
Below Libby Dam	3,400	53	Apr-July	6,262	6,417
	2,700	54	Apr-June	4,593	5,011
FISHER RIVER					
Libby (near)	100	35	Apr-Sept		286
	90	33	Apr-July		269
YAAK RIVER					
Troy (near)	250	44	Apr-Sept		568
	220	40	Apr-July		544
KOOTENAI RIVER					
Leonia (at) (2)	4,900	54	Apr-Sept		9,073
	4,200	53	Apr-July		7,957
	3,450	54	Apr-June		6,431
INFLOW MOULTON RESERVOIR					
Butte (near) (million gallons)	100	45	Apr-June	444	220
WARM SPRINGS CREEK AT MEYERS DAM					
Anaconda (near) (3)	25.5	50	Apr-Sept	74.6	50.9
	20.0	48	Apr-July	61.6	41.8
FLINT CREEK					
Southern Cross (near) (4)	7.1	42	Apr-Sept	31.7	16.9
	5.8	41	Apr-July	26.2	14.3
FLINT CREEK					
Boulder Creek (below) (5)	33.0	46	Apr-Sept		71.6
	26.0	46	Apr-July		56.1
INFLOW LOWER WILLOW CREEK RESERVOIR					
Hall (near) (6)	5.5	34	Apr-Sept	28.0	16.2
	5.0	32	Apr-July	26.7	15.4
MIDDLE FORK ROCK CREEK					
Philipsburg (near)	35.0	46	Apr-Sept		75.9
	30.0	44	Apr-July		68.6
NEVADA CREEK					
Finn (near)	5.5	25	Apr-Sept		21.6
	5.0	25	Apr-July		20.1

(2) Adjusted for storage in Lake Koocanusa.

(3) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.

(4) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.

(5) Sum Flint Creek at Maxville and Boulder Creek at Maxville.

(6) Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.



# STREAMFLOW FORECASTS

BASIN STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average

## COLUMBIA RIVER BASIN (Continued)

BLACKFOOT RIVER					
Bonner (near)	470	46	Apr-Sept	1,031	
	390	42	Apr-July	934	
	320	39	Apr-June	814	
CLARK FORK RIVER					
Milltown (above)(7)	350	44	Apr-Sept	792	
	290	42	Apr-July	690	
	240	41	Apr-June	590	
CLARK FORK RIVER					
Missoula (above)	820	45	Apr-Sept	2,649	1,823
	680	42	Apr-July	2,389	1,624
	560	40	Apr-June	2,106	1,404
WEST FORK BITTERROOT RIVER					
Conner (near)(8)	78.0	45	Apr-Sept		172
	70.0	45	Apr-July		156
BITTERROOT RIVER					
Darby (near)	255	44	Apr-Sept	836	584
	230	42	Apr-July	758	542
	200	42	Apr-June	666	479
SKALKAHO CREEK					
Hamilton (near)	30.0	53	Apr-Sept		56.6
	25.0	50	Apr-July		49.6
BURNT FORK CREEK					
Stevensville (near)(9)	20.0	57	Apr-Sept		35.3
	17.0	55	Apr-July		31.0
BITTERROOT RIVER					
Missoula (at)(10)	650	43	Apr-Sept	1,527	
	580	41	Apr-July	1,412	
	520	42	Apr-June	1,236	
CLARK FORK RIVER					
Missoula (below)	1,470	44	Apr-Sept	3,350	
	1,260	42	Apr-July	3,036	
	1,080	41	Apr-June	2,640	
CLARK FORK RIVER					
St. Regis (at)	1,900	42	Apr-Sept	6,119	4,507
	1,660	41	Apr-July	5,504	4,087
	1,450	41	Apr-June	4,794	3,563
NORTH FORK FLATHEAD RIVER					
Columbia Falls (near)	1,050	53	Apr-Sept		1,991
	950	52	Apr-July		1,813
	820	53	Apr-June		1,551

(7) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.

(8) Adjusted for storage in Painted Rocks Reservoir.

(9) Adjusted for diversion into Sunset Highline Canal.

(10) Difference in observed flow Clark Fork above and below Missoula.





# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average

## COLUMBIA RIVER BASIN (Continued)

### MIDDLE FORK FLATHEAD RIVER

West Glacier (near)	1,200	63	Apr-Sept	1,982	1,917
	1,100	62	Apr-July	1,779	1,768
	980	65	Apr-June	1,458	1,514

### SOUTH FORK FLATHEAD RIVER

Columbia Falls (near)	1,450	61	Apr-Sept	2,489	2,378
	1,350	60	Apr-July	2,345	2,240
	1,220	61	Apr-June	2,038	1,984

### FLATHEAD RIVER

Columbia Falls (at) (11)	3,800	59	Apr-Sept	6,785	6,421
	3,500	59	Apr-July	6,176	5,942
	3,100	60	Apr-June	5,200	5,151

### SWAN RIVER

Big Fork (near)	370	52	Apr-Sept		717
	320	51	Apr-July		630

### FLATHEAD RIVER

Polson (near)(12)	4,200	55	Apr-Sept	8,187	7,648
	3,850	54	Apr-July	7,343	7,082
	345	56	Apr-June	6,160	6,113

### CLARK FORK RIVER

Plains (near)(12)	6,200	49	Apr-Sept	14,454	12,601
	5,560	48	Apr-July	12,967	11,523
	4,800	48	Apr-June	10,996	9,934

### THOMPSON RIVER

Thompson Falls (near)	102	37	Apr-Sept		277
	90	36	Apr-July		248

### PROSPECT CREEK

Thompson Falls (at)	55.0	37	Apr-Sept		147
	50.0	36	Apr-July		137

### CLARK FORK RIVER

Whitehorse Rapids (at)(13)	6,800	48	Apr-Sept		14,083
	6,160	48	Apr-July		12,852
	5,300	48	Apr-June		11,092

(11) Adjusted for storage in Hungry Horse Reservoir.

(12) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.

(13) Adjusted for storage in Hungry Horse Reservoir, Flathead Lake, and Noxon Rapids Reservoirs.





# STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average

## MISSOURI RIVER BASIN

BEAVERHEAD RIVER					
Grant (near)(14)	37.0	26	Apr-Sept	244	145
	35.0	28	Apr-July	202	127
RUBY RIVER					
Alder (near)	49.0	52	Apr-Sept		93.9
	38.0	48	Apr-July		79.4
BIG HOLE RIVER					
Melrose (near)	270	36	Apr-Sept		748
	250	36	Apr-July		694
BIRCH CREEK					
Glen (near)	6.6	48	Apr-Sept		13.7
	5.0	43	Apr-July		11.5
BOULDER RIVER					
Boulder (near)	38.0	42	Apr-Sept	145	89.5
	36.0	42	Apr-July	134	85.3
WILLOW CREEK					
Harrison (near)	5.0	26	Apr-Sept		18.9
	4.5	26	Apr-July		17.1
MADISON RIVER					
Grayling (near)(15)	315	66	Apr-Sept	575	480
	240	64	Apr-July	449	374
MADISON RIVER					
McAllister (near)(16)	530	65	Apr-Sept	994	828
	410	63	Apr-July	792	652
GALLATIN RIVER					
Gateway (near)	320	60	Apr-Sept		531
	275	61	Apr-July		451
INFLOW MIDDLE CREEK RESERVOIR					
Bozeman (near)(17)	18.9	67	Apr-Sept		28.2
	16.0	66	Apr-July		24.4
HYALITE CREEK					
Bozeman (near)(18)	29.0	66	Apr-Sept		44.2
	25.0	65	Apr-July		38.2
GALLATIN RIVER					
Logan (at)	230	40	Apr-Sept		573
	185	38	Apr-July		487

(14) Adjusted for storage in Lima and Clark Canyon Reservoirs.

(15) Adjusted for storage in Hebgen Lake.

(16) Adjusted for storage in Hebgen and Ennis Lakes.

(17) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above Reservoir.

(18) Adjusted for storage in Middle Creek Reservoir.



# STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average

## MISSOURI RIVER BASIN (Continued)

MISSOURI RIVER					
Toston (at)(19)	1,020	42	Apr-Sept	3,517	2,432
	845	40	Apr-July	3,168	2,109
SHEEP CREEK					
White Sulphur Springs (near)	14.6	71	Apr-Sept	25.2	20.6
	12.5	69	Apr-July	21.9	18.0
SUN RIVER					
Gibson Dam (at)(20)	290	49	Apr-Sept	703	590
	260	48	Apr-July	643	541
BELT CREEK					
Monarch (near)	80.0	65	Apr-Sept		123
	70.0	66	Apr-July		113
MISSOURI RIVER					
Fort Benton (at)(21)	1,500	41	Apr-Sept		3,690
	1,150	37	Apr-July		3,123
TWO MEDICINE CREEK					
Browning (near)(22)	130	51	Apr-Sept		253
	125	52	Apr-July		240
BADGER CREEK					
Browning (near)	72.0	55	Apr-Sept		130
	60.0	53	Apr-July		113
MARIAS RIVER					
Shelby (near)(23)	200	36	Apr-Sept		599
	180	33	Apr-July		538
MISSOURI RIVER					
Virgelle (at)(24)	1,750	40	Apr-Sept		4,342
	1,350	36	Apr-July		3,742
SOUTH FORK JUDITH RIVER					
Utica (near)	9.5	64	Apr-Sept		14.9
	8.4	61	Apr-July		13.7
MISSOURI RIVER					
Landusky (near)(24)	1,800	38	Apr-Sept		4,739
	1,400	34	Apr-July		4,068

(19) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.

(20) Adjusted for storage in Gibson Reservoir and diversions.

(21) Adjusted for storage in Canyon Ferry Reservoir.

(22) Adjusted for storage in Two Medicine Reservoir and diversions into Two Medicine Canal.

(23) Adjusted for storage in Two Medicine, Four Horns, Lake Frances, and Swift Reservoir.

(24) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.



# STREAMFLOW FORECASTS

STREAMFLOW FORECASTS		THIS YEAR		PAST RECORD		
BASIN	STREAM and or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
		Thousand Acre Feet	Percent of Average		Last Year	Average

## MISSOURI RIVER BASIN (Continued)

NORTH FORK MUSSELSHELL RIVER				
Delpine (near)	3.9	63	Apr-Sept	6.2
	3.3	61	Apr-July	5.4
SOUTH FORK MUSSELSHELL RIVER				
Martinsdale (above)	34.0	68	Apr-Sept	50.1
	32.0	68	Apr-July	47.3
MISSOURI RIVER				
Fort Peck Dam (below) (25)	1,500	33	Apr-Sept	4,598
	1,250	31	Apr-July	4,069
MILK RIVER				
Eastern Crossing (at)	195	68	Mar-Sept	286
MISSOURI RIVER				
Wolf Point (near) (25)	1,600	33	Apr-Sept	4,898
	1,300	30	Apr-July	4,361
MISSOURI RIVER				
Williston, N.D. (near) (31)	4,600	39	Apr-Sept	11,778
	4,100	39	Apr-July	10,437

## SASKATCHEWAN RIVER BASIN

ST. MARY RIVER				
Babb (near) (32)	310	63	Apr-Sept	490
	255	61	Apr-July	421

- (25) Adjusted for storage in Canyon Ferry, Tiber, and Fort Peck Reservoirs.  
 (31) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill, Boysen and Yellowtail Reservoirs. Sum Yellowstone River near Sidney and Missouri River near Culbertson.  
 (32) Adjusted for storage in Lake Sherburne.





# STREAMFLOW FORECASTS

STREAMFLOW FORECASTS		THIS YEAR		PAST RECORD	
BASIN, STREAM and or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average

## YELLOWSTONE RIVER BASIN

YELLOWSTONE RIVER					
Corwin Springs (at)	1,200	60	Apr-Sept	2,453	1,996
	980	59	Apr-July	2,089	1,662
YELLOWSTONE RIVER					
Livingston (near)	1,280	55	Apr-Sept		2,317
	1,050	55	Apr-July		1,926
BOULDER RIVER					
Big Timber (at)	220	58	Apr-Sept		379
	210	60	Apr-July		350
STILLWATER RIVER					
Absarokee (near)(26)	340	58	Apr-Sept		591
	280	57	Apr-July		494
CLARKS FORK RIVER					
Belfry (near)	370	61	Apr-Sept		607
	350	64	Apr-July		546
ROCK CREEK					
Red Lodge (near)	69.0	63	Apr-Sept	133	110
	50.0	60	Apr-July	104	84.0
INFLOW COONEY RESERVOIR					
Boyd (near)(27)	23.0	45	Apr-Sept		51.5
	18.0	44	Apr-July		41.1
YELLOWSTONE RIVER					
Billings (at)	2,350	55	Apr-Sept	5,711	4,246
	1,990	55	Apr-July	4,876	3,613
BIGHORN RIVER					
St. Xavier (near)(28)	600	32	Apr-Sept	2,077	1,849
	520	30	Apr-July	1,846	1,706
LITTLE BIGHORN RIVER					
Lodgegrass (near)(29)	160	110	Apr-Sept		146
	144	112	Apr-July		129
YELLOWSTONE RIVER					
Miles City (at)(30)	3,000	47	Apr-Sept		6,378
	2,600	47	Apr-July		5,555
YELLOWSTONE RIVER					
Sidney (near)(30)	3,100	46	Apr-Sept		6,665
	2,700	46	Apr-July		5,895

(26) Adjusted for storage in Mystic Lake.

(27) Sum of Red Lodge Creek above Reservoir and Willow Creek near Boyd.

(28) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake and Yellowtail

(29) Sum Little Bighorn below Pass Creek and Lodgegrass Creek near Wyola.

(30) Adjusted for storage in Buffalo Bill, Boysen and Yellowtail Reservoirs.



# SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average
AMBROSE	6480	3/02	25	4.7	15.0	11.7
ARCH FALLS	7350	2/25	25	5.2	13.9	10.9
BALD EAGLE PEAK	5700	2/23	56	19.0	-	60.1
BALD RIDGE	7500	2/28	40	9.9	13.0	11.3
BANFIELD MOUNTAIN	5600	2/24	22	5.2	22.6	23.2
BANFIELD MOUNTAIN PILLOW	5600	2/24	SP	6.3	21.4	19.4
BARRE CREEK	5500	2/28	56	19.5	53.4	43.6
BARRE MIDWAY	4600	2/28	52	16.5	37.3	34.6
BARRE TRAIL	3800	2/28	6	1.0	11.5	10.5
BASIN CREEK	7180	2/25	13	2.0	11.4	-
BASSOO PEAK	5150	2/25	9	1.9	7.3	10.5
BATTLE RIDGE	6020	2/23	18	4.4	7.5	7.0
BEAGLE SPRINGS	8850	2/25	11	1.7	-	-
BEAR BASIN	8150	2/24	49	11.7	22.4	19.4
BEAR PAW SKI AREA	5200	2/26	24	6.6	3.7	6.3
BERRY MEADOW	7000	2/23	11	2.1	6.8	7.5
BIG COULEE	5100	2/22	23	6.4	3.7	-
BIG CREEK	6750	2/23	66	20.3	36.2	41.7
BIG SKY	7700	3/01	36	8.5	15.8	13.4
BIG SKY MEADOW	6350	2/24	22	4.7	11.4	8.0
BIG SNOWY	7150	2/25	58	15.8	16.3	15.0
BIG SPRINGS (ID)	6500	2/28	31	6.0	21.5	18.6
BLACK BEAR	7950	2/25	38	9.9	43.0	-
BLACK BEAR PILLOW	7950	2/25	SP	10.3	38.6	-
BLACK CANYON	7850	2/25	33	8.0	36.0	29.4
BLACK MOOSE (ID)	8120	2/25	33	9.2	39.4	36.2
BLACK PINE	7100	2/28	20	4.8	17.2	11.9
BLACK PINE PILLOW	7100	2/28	SP	5.2	18.7	11.7
BLOODY DICK	7600	2/24	17	3.6	16.2	12.1
BLOODY DICK PILLOW	7600	2/24	0	3.6	-	-
POTS SOTS	8000	2/28	16	3.5	8.8	-
BOULDER MOUNTAIN	7950	2/22	28	7.4	21.2	16.3
BOULDER MOUNTAIN PILLOW	7950	2/22	0	6.7	-	-
BOW RIVER #1 (AL)	5100	3/02	20	4.4	7.9	8.1
BOX CANYON	6670	2/28	27	5.5	-	-
BRANHAM LAKES	8850	2/28	43	10.4	30.6	25.9
BRIDGER BOWL	7250	2/23	49	13.1	25.2	26.1
BRIDGER BOWL PILLOW	7250	2/23	SP	13.2	26.3	24.3
BRISTOW CREEK	3900	2/24	5	2.0	12.4	13.7
BRUSH CREEK TIMBER	5000	2/24	14	3.4	8.7	10.2
BULL MOUNTAIN	6600	2/28	9	2.0	5.6	-
CABIN CREEK	5200	2/25	13	3.1	5.5	7.2
CALL ROAD	8050	2/25	18	4.8	11.2	9.8
CALVERT CREEK	6450	2/25	19	3.2	12.4	9.1
CALVERT CREEK PILLOW	6450	2/25	SP	3.0	9.4	-
CAMP CREEK (ID)	6800	2/28	10	1.5	6.9	9.0
CAMP MISERY	6400	2/28	97	30.9	39.0	42.2
CAMP SENIA	7890	2/28	9	1.8	6.6	5.2



# SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average
CANYON (WY)	7750	3/01	27	5.7	18.6	13.9
CARROT BASIN	9000	2/24	37	9.2	36.6	32.3
CARROT BASIN PILLOW	9000	2/24	SP	8.5	26.7	23.9
CARTER CREEK	7400	2/28	6	.8	5.2	4.4
CEDAR GROVE	4100	2/23	10	3.1	13.1	11.6
CHESSMAN RESERVOIR	6200	2/24	6	1.4	4.0	3.1
CHICKEN CREEK	4060	2/25	33	8.4	-	-
CLOVER MEADOW	8600	2/25	32	6.6	17.7	14.7
COLE CREEK	7850	3/01	32	8.4	15.7	-
COLE CREEK PILLOW	7850	3/01	SP	8.0	16.1	-
COLLEY CREEK	6300	3/01	27	6.1	9.2	-
COMBINATION	5600	2/28	12	2.0	7.2	6.7
COMBINATION PILLOW	5600	2/28	SP	3.4	7.0	-
COOKE STATION	8150	3/01	38	8.8	21.9	17.6
COPPER BOTTOM	5200	2/25	14	3.8	11.9	11.1
COPPER BOTTOM PILLOW	5200	2/25	SP	4.4	13.9	-
COPPER CAMP	6950	2/25	34	9.6	33.2	30.3
COPPER CAMP PILLOW	6950	2/25	SP	10.8	38.9	-
COPPER CREEK	5700	2/25	16	4.7	13.6	15.4
COPPER LAKE CREEK	6100	2/25	26	7.4	24.3	22.6
COPPER MOUNTAIN	7700	3/02	22	3.9	12.9	10.0
COTTONWOOD CREEK	6400	3/02	21	4.7	10.2	-
COYOTE HILL	4200	2/24	25	6.7	9.9	10.4
CREVICE MOUNTAIN	8400	2/28	33	6.8	11.9	9.2
CRYSTAL LAKE	6100	2/25	49	12.0	10.6	12.3
DAD CREEK LAKE	8400	2/25	16	3.0	15.1	11.9
DAISY PEAK	7600	2/28	27	5.5	12.0	10.3
DALY CREEK	5780	2/25	22	4.4	12.4	-
DAVIS CREEK	5400	2/22	22	4.7	18.6	23.8
DEADMAN CREEK	6450	2/23	31	9.0	10.0	11.4
DEADMAN CREEK PILLOW	6450	2/23	SP	8.0	9.4	9.8
DESERT MOUNTAIN	5600	2/25	27	7.0	13.5	14.7
DEVILS SLIDE	8100	2/25	48	12.8	22.4	20.2
DISCOVERY BASIN	7050	2/28	23	5.1	11.3	-
DIVIDE	7800	2/25	16	3.2	8.7	10.0
DIVIDE PILLOW	7800	2/25	SP	3.8	7.9	-
DIX HILL	6400	2/27	18	4.4	12.0	-
EL DORADO MINE	7800	2/24	33	7.4	27.1	18.7
FLK HORN SPRINGS	7800	3/01	17	3.3	11.0	8.4
ELK PEAK	8000	2/24	39	10.8	15.7	15.8
EMERY CREEK	4350	2/25	27	7.6	14.3	-
EMERY CREEK PILLOW	4350	2/25	SP	6.2	-	-
FATTY CREEK	5500	2/23	48	12.6	19.2	21.0
FISH CREEK	8000	2/25	14	2.8	12.7	-
FISHER CREEK	9100	3/01	58	17.2	39.3	32.6
FISHER CREEK PILLOW	9100	3/01	SP	17.0	40.0	30.5
FLEECER RIDGE	7500	2/28	18	3.7	13.0	-
FOUR MILE	6900	2/22	10	2.2	9.6	7.6
FOURTH OF JULY	3450	3/01	14	2.3	-	-
FRED BURR PASS	8000	2/28	39	9.9	29.5	23.5







# SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average
FRIDAY HILL	4620	3/01	26	5.8	-	-
FROHNER MEADOWS	6480	2/22	13	3.2	6.9	-
FROHNER MEADOWS PILLOW	6480	2/22	SP	3.8	8.6	-
GARVER CREEK	4250	2/22	10	2.1	7.2	12.3
GARVER CREEK PILLOW	4250	2/22	SP	5.1	10.2	10.7
GIBBONS PASS	7100	2/23	24	5.2	24.1	20.5
GOAT MOUNTAIN	7000	2/28	16	4.8	11.1	10.3
GOLD CREEK LAKE	7200	2/24	20	4.0	20.0	13.8
GOLD STONE	8100	2/24	22	5.0	19.6	15.3
GRASSHOPPER	7000	2/24	17	4.2	4.0	5.1
GRAVE CREEK	4300	2/25	24	6.6	15.2	17.9
GRAVE CREEK PILLOW	4300	2/25	SP	7.2	16.1	-
GRIFFIN CREEK DIVIDE	5150	2/24	18	3.7	8.6	11.6
GRIZZLY PEAK	8400	3/01	32	8.2	15.6	13.5
HAND CREEK	5030	2/24	25	5.5	10.1	-
HAND CREEK PILLOW	5030	2/24	0	5.1	-	-
HAWKINS LAKE	6450	2/22	29	8.0	30.2	28.3
HAWKINS LAKE PILLOW	6450	2/22	SP	9.2	31.9	26.4
HEART LAKE TRAIL	4800	3/01	30	6.7	22.3	21.2
HEBGEN DAM	6550	2/25	26	5.9	14.7	10.8
HELL ROARING DIVIDE	5770	3/01	58	15.5	28.0	29.1
HERRIG JUNCTION	4850	2/25	41	11.0	-	-
HIGHWOOD DIVIDE	5650	2/22	29	8.6	8.7	-
HIGHWOOD STATION	4600	2/22	19	5.7	1.9	-
HOOD MEADOW	6600	2/25	25	4.8	11.8	9.8
HOODOO BASIN	6000	3/01	58	14.8	48.6	46.1
HOODOO BASIN PILLOW	6000	3/01	SP	14.0	47.2	45.8
HOODOO CREEK	5900	3/01	51	12.2	45.5	43.2
INDEPENDENCE	7850	2/28	40	8.3	21.8	17.5
INTERGAARD	6450	3/01	18	3.0	11.5	7.7
ISLAND PARK (ID)	6310	2/28	27	5.2	18.4	14.7
JACK CREEK	7500	2/23	11	2.2	6.0	4.8
JAHNKE LAKE TRAIL	7200	2/24	12	2.4	12.2	8.6
JOHNSON PARK	6450	2/28	19	3.8	7.4	7.4
KINGS HILL	7500	2/28	35	7.7	12.8	12.5
KISHENEHN	3890	2/26	9	1.4	7.3	9.3
LAKE CAMP (WY)	7850	3/01	17	2.8	11.3	8.2
LAKE CREEK	6100	2/28	14	3.1	9.0	6.2
LAKEVIEW CANYON	6930	2/28	14	2.4	9.8	11.1
LAKEVIEW RIDGE	7400	2/28	12	2.0	9.2	9.9
LATHAM SPRINGS (ID)	7650	2/25	34	8.2	35.0	27.9
LEMHI PASS	7480	2/25	12	2.5	11.2	7.9
LEMHI RIDGE	8100	2/25	15	2.9	13.6	8.9
LEMHI RIDGE PILLOW	8100	2/25	SP	3.5	14.4	-
LICK CREEK	6860	2/25	25	4.3	10.1	8.8
LICK CREEK PILLOW	6860	2/25	SP	5.9	10.3	8.3
LITTLE PARK	7400	2/24	40	9.2	17.5	14.4
LOGAN CREEK	4300	2/24	10	2.8	6.6	8.1
LOLO PASS PILLOW	5230	3/01	SP	8.3	30.0	-
LONE MOUNTAIN	8880	2/28	42	9.7	24.8	20.6



# SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average
LOOKOUT (ID)	5250	2/24	36	10.0	31.2	32.7
LOST HORSE	5940	3/01	50	12.5	40.5	29.0
LOST SOUL	4800	2/24	17	4.2	15.0	16.6
LOWER TWIN	7900	2/22	24	5.6	21.0	18.6
LUBRECHT FLUME	4800	2/28	10	2.8	6.5	6.5
LUBRECHT FLUME PILLOW	4800	2/28	SP	3.0	5.5	6.2
LUBRECHT FOREST # 3	5450	2/28	14	3.3	6.6	7.0
LUBRECHT FOREST # 4	4650	2/28	5	1.2	2.0	3.7
LUBRECHT FOREST # 6	4040	2/28	4	1.2	3.4	4.3
LUBRECHT HYDROPLOT	4200	2/28	7	1.6	5.5	5.4
LUPINE CREEK (WY)	7300	2/28	16	2.8	12.9	9.8
MADISON PLATEAU	7750	2/25	24	4.4	25.5	18.6
MADISON PLATEAU PILLOW	7750	2/25	SP	7.4	26.4	20.0
MARIAS PASS	5250	3/02	18	4.3	15.7	16.9
MAYNARD CREEK	6210	2/23	37	8.8	13.8	16.9
MAYNARD CREEK PILLOW	6210	2/23	SP	6.4	9.5	10.1
MEADOW CREEK PILLOW	4000	3/01	SP	5.1	5.7	-
MIDDLE HILL CREEK	7850	2/28	27	4.9	15.0	13.7
MILL CREEK	7500	3/01	37	9.0	14.3	11.7
MINERAL CREEK	4000	2/26	18	4.4	16.0	18.4
MIRROR LAKE #6 (AL)	6600	2/28	23	5.6	11.7	10.3
MONUMENT PEAK	8800	2/28	53	13.4	31.5	24.4
MOULTON RESERVOIR	6850	2/28	12	1.4	-	-
MOUNT LOCKHART	6400	3/02	33	8.4	25.0	21.0
MOUNT LOCKHART PILLOW	6400	3/02	SP	8.3	22.2	18.7
MT. EISENHOWER #10 (AL)	5000	3/01	13	2.6	4.9	5.3
MUDD LAKE	7650	2/25	23	4.8	20.0	19.2
NEW WORLD	6900	2/23	35	7.4	15.4	13.1
NEWTON MOUNTAIN	5600	3/01	39	9.1	-	-
NEZ PERCE CREEK	6500	3/02	17	2.7	8.4	6.3
NOISY BASIN	6040	2/28	98	30.0	36.6	-
NOISY BASIN PILLOW	6040	2/28	SP	25.0	33.1	-
NOISY CREEK	3600	2/28	19	4.2	3.6	-
NORRIS BASIN (WY)	7500	2/27	21	4.0	12.5	9.9
NORTH FK. ELK CREEK	6250	2/28	22	5.2	12.7	10.5
NORTH FK. ELK CREEK PILL	6250	2/28	SP	4.8	13.7	10.9
NORTH FORK JOCKO	6330	2/24	75	23.4	43.9	42.5
NORTH MEADOW	7500	2/22	8	1.5	8.6	7.0
NORTHEAST ENTRANCE	7400	3/02	24	5.0	12.8	8.4
NORTHEAST ENTRANCE PILL.	7400	3/02	SP	5.1	12.2	8.3
NOTCH	8500	2/25	27	5.8	14.0	13.3
OPHIR PARK	7150	2/27	31	8.6	22.6	-
PETERSON MEADOWS	7200	3/01	19	3.7	12.4	8.3
PETERSON MEADOWS PILLOW	7200	3/01	SP	3.8	13.7	-
PICNIC GROUNDS	6200	3/02	12	1.8	4.6	4.1
PIPESTONE PASS	7200	2/28	8	1.2	7.6	4.5
PIPESTONE UPPER #2 (AL)	5300	2/28	20	4.2	6.5	8.5
POORMAN CREEK	5100	2/23	35	11.7	31.3	33.7
POORMAN CREEK PILLOW	5100	2/23	SP	11.5	29.6	28.7
PORCUPINE PILLOW	6500	2/25	0	6.5	-	-





# SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average
PORCUPINE	6500	2/25	25	6.0	6.8	6.5
POTOMAGETON PARK	7150	2/24	25	5.6	14.2	11.8
RED MOUNTAIN	6000	3/01	25	5.2	17.8	17.4
RED TOP	5260	2/28	37	9.1	-	-
ROCK CREEK	5600	2/25	42	9.4	8.2	8.3
ROCK CREEK MEADOWS	8160	2/28	52	12.2	22.7	-
POCKER PEAK	8000	2/23	18	5.1	16.8	13.7
ROCKER PEAK PILLOW	8000	2/23	SP	4.5	17.3	13.2
ROCKY BOY	4700	2/26	20	5.0	1.9	4.6
ROCKY BOY PILLOW	4700	2/26	SP	3.9	3.8	5.0
SACAJAWEA	6550	2/23	38	9.8	14.0	13.3
SADDLE MOUNTAIN	7940	2/28	32	7.4	27.2	22.7
SADDLE MOUNTAIN PILLOW	7940	2/28	SP	7.3	27.8	24.0
SAWTELL MOUNTAIN (ID)	8710	2/28	37	7.7	29.0	30.4
SENTINEL CREEK	8300	2/24	36	9.4	21.1	21.3
SHOWER FALLS	8100	2/25	56	14.7	24.5	21.6
SHOWER FALLS PILLOW	8100	2/25	SP	13.6	24.3	20.8
SILVER RUN	6630	2/28	13	2.9	5.3	-
SILVER RUN PILLOW	6630	2/28	0	2.4	-	-
SLIDE ROCK MOUNTAIN	7100	2/25	28	6.4	20.2	14.6
SMUGGLER MINE	6960	2/28	20	3.7	7.6	9.1
SOUTH FORK SHIELDS	8100	2/28	68	18.1	23.0	21.4
SPUR PARK	8000	2/23	40	12.2	18.6	19.6
SPUR PARK PILLOW	8100	2/23	SP	12.9	21.3	20.0
STAHL PEAK	6050	2/25	58	15.6	34.7	37.6
STAHL PEAK PILLOW	6050	2/25	SP	14.6	29.8	-
STEMPLE PASS	6600	2/27	22	4.5	11.9	9.8
STORM LAKE	7780	3/01	28	5.3	15.6	11.7
STUART MILL	6500	3/01	12	2.1	7.6	6.3
SUCKER CREEK	3960	2/26	4	.4	.0	-
SUGARLOAF	7350	3/02	24	5.5	-	-
SYLVAN PASS (WY)	7100	2/27	20	5.2	17.1	11.9
TARGHEE PASS (ID)	7000	2/28	24	4.5	16.0	13.5
TAYLOR ROAD	4080	2/26	19	4.4	.0	-
TEN MILE LOWER	6600	2/24	14	1.9	7.1	6.9
TEN MILE MIDDLE	6800	2/24	19	2.7	13.3	10.4
TEN MILE UPPER	8000	2/24	20	4.3	17.0	12.7
TEPEE CREEK	8000	2/28	21	4.5	16.2	14.3
TEPEE CREEK PILLOW	8000	2/28	SP	4.2	12.6	-
THUMB DIVIDE (WY)	7900	2/28	21	3.5	18.8	19.0
TIMBERLINE CREEK	8850	2/28	30	7.0	17.8	12.6
TRAIL CREEK	7090	2/25	11	2.1	10.0	7.1
TV MOUNTAIN	6800	2/27	30	5.5	19.0	17.0
TWELVEMILE CREEK	5600	3/01	41	9.8	26.7	18.8
TWELVEMILE CREEK PILLOW	5600	3/01	SP	8.2	22.3	16.4
TWENTY-ONE MILE	7150	2/25	22	5.0	20.3	16.1
TWIN LAKES	6510	3/01	64	16.4	47.2	37.2
TWIN LAKES PILLOW	6400	3/01	SP	15.9	47.8	37.7
VALLEY VIEW (ID)	6500	2/28	21	4.9	17.6	15.4
WALDRON	5600	3/02	17	3.4	10.0	11.2





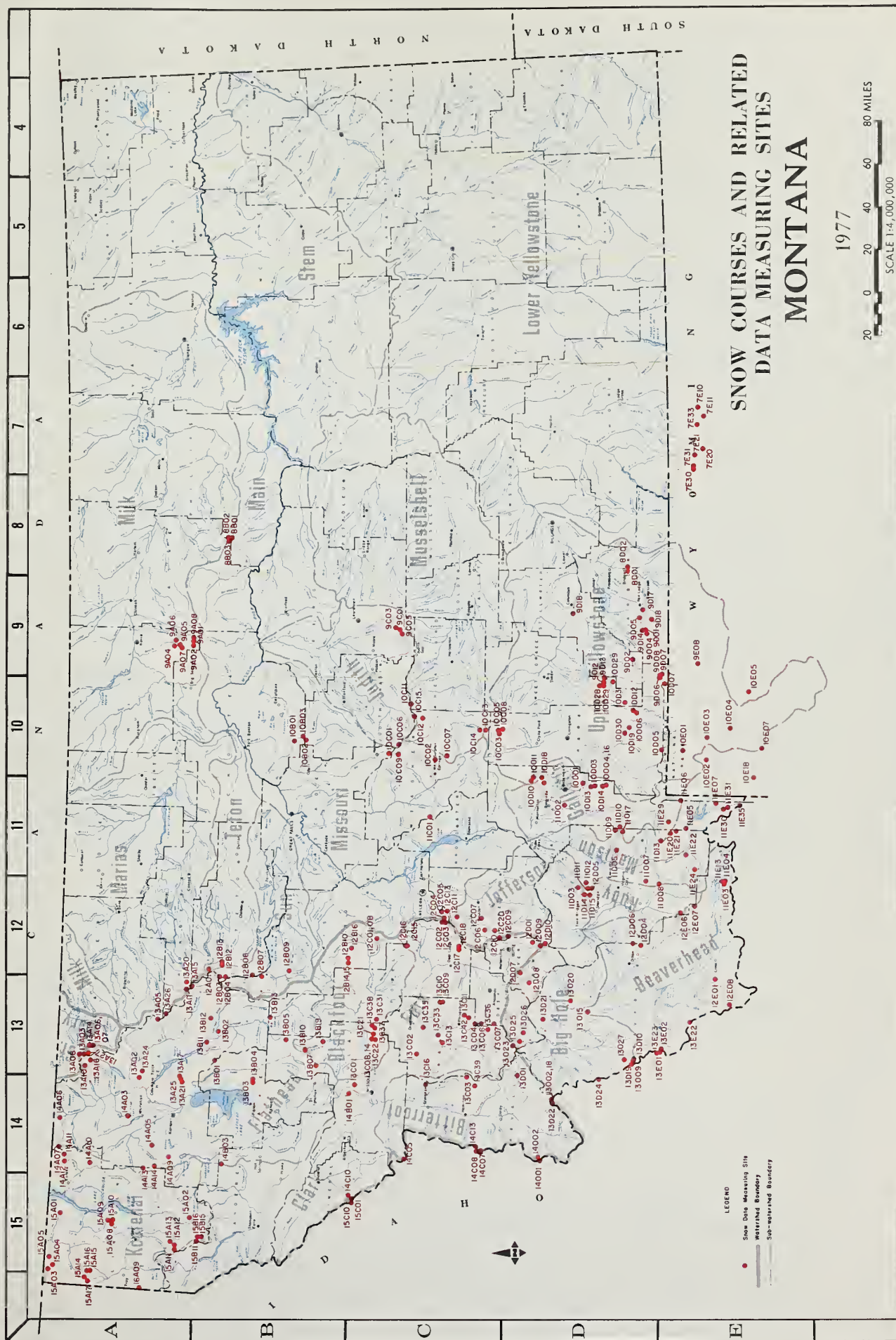
# SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average
WALDRON PILLOW	5600	3/02	SP	4.6	8.3	11.9
WEASEL DIVIDE	5450	2/25	41	10.0	30.8	32.6
WEST YELLOWSTONE	6700	2/25	17	3.2	17.0	10.6
WEST YELLOWSTONE PILLOW	6700	3/01	SP	2.2	10.8	7.7
WHISKEY CREEK	6800	2/25	25	5.7	24.0	18.5
WHISKEY CREEK PILLOW	6800	2/25	SP	4.8	19.8	-
WHITE ELEPHANT (ID)	7700	2/28	30	6.0	22.9	-
WHITE MILL	8700	3/01	42	10.4	30.4	24.1
WHITE MILL PILLOW	8700	3/01	SP	11.0	28.1	-
WHITE PINE RIDGE	8850	2/25	8	1.4	6.2	4.7
WILLOW CREEK	6500	3/01	22	4.8	9.5	-
WRONG CREEK	5700	2/25	20	4.5	13.6	14.6
WRONG RIDGE	6800	2/26	28	6.8	20.5	19.3

## LATE RECEIVED DATA

Black Mountain	7750	3/08	30	5.0	-	-
Badger Pass	6900	3/06	52	17.6	45.3	37.0
Beaver Lake	5900	3/06	34	9.7	25.7	21.3
Blue Lake	5900	3/06	37	11.5	27.8	26.4
Darkhorse Lake	8600	3/07	34	10.0	32.8	24.2
East Fork RS	5400	3/07	12	3.6	7.0	6.7
Five-Bull	5700	3/06	9	2.2	5.5	7.0
Foolhen	8280	3/08	27	6.3	19.1	15.6
Freight Creek	6000	3/06	24	6.2	15.1	14.5
Gunsight Lake	6300	3/06	57	19.3	36.5	39.1
Kilgore (ID)	6200	2/28	15	3.0	9.1	10.1
King Creek Saddle	4550	2/27	19	4.7	-	-
King Springs	4150	2/27	16	4.2	-	-
Kit Carson (ID)	5020	3/07	19	5.0	-	-
Kiwanis Camp	3720	2/26	2 <sup>E</sup>	0.2 <sup>E</sup>	.0	-
Lolo Pass (ID)	5230	2/28	40	8.3	32.9	28.5
Many Glacier	4960	3/03	26	8.2	-	-
Many Glacier Pillow	4960	3/03	SP	7.7	-	-
Mission Mountain	5050	2/27	20	5.3	-	-
Moose Creek (ID)	6200	3/01	24	4.6	18.6	15.2
Nez Perce Camp	5580	3/07	23	6.5	15.6	13.0
Nez Perce Pass	6570	3/07	26	7.0	20.3	14.3
Old Faithful (WY)	7360	2/24	16	4.0 <sup>E</sup>	20.3	-
Skalkaho Summit	7260	3/07	36	8.4	29.8	23.4
Slag-A-Melt Lake	8750	3/07	28	7.1	30.6	24.8
Spotted Bear Mountain	7000	3/06	30	8.2	16.3	14.7
Stryker Basin	6180	3/02	56	15.6	-	-
Stuart Mountain	7400	3/03	51	12.4	34.6	28.9
Trinkus Lake	6100	3/06	83	29.0	38.2	39.9
Twin Creeks	3580	3/06	22	6.4	11.6	12.3
Upper Holland Lake	6200	3/06	66	21.2	33.8	33.7
Wolverine (WY)	7650	2/28	19	4.0	11.9	-







## INDEX to MONTANA SNOW COURSES and DATA SITES

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# Agencies and Organizations Cooperating in Montana Snow Surveys

## GOVERNMENT AGENCIES

### Canada:

Water Survey of Canada, Calgary, Department of the  
Environment  
Water Resources Service, Department of Lands, Forests  
and Water Resources, British Columbia  
Alberta Environment, Edmonton, Alberta

### Federal:

Department of the Army  
Corps of Engineers  
U.S. Department of Agriculture  
Forest Service  
Soil Conservation Service  
U.S. Department of Commerce  
NOAA, National Weather Service  
U.S. Department of the Interior  
Bonneville Power Administration  
Bureau of Indian Affairs  
Bureau of Reclamation  
Fish and Wildlife Service  
Geological Survey  
National Park Service

## STATE

Montana Association of Conservation Districts  
Montana Department of Fish and Game  
Montana Department of Natural Resources and  
Conservation  
Montana State University - Agricultural Experiment  
Station  
University of Montana - School of Forestry

## PRIVATE

Montana Power Company  
Butte Water Company  
The Anaconda Company

Other organizations and individuals furnish valuable  
information for snow survey reports. Their cooperation  
is gratefully acknowledged.

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